DATE$$$ TIME$$$ PRF DGN

$USER$ $$PENTABLE$$

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NHS00-0000-00(931)	507A	831

VOID

GENERAL NOTES

1. ALL LAMPS SHALL BE HIGH PRESSURE SODIUM UNLESS NOTED OTHERWISE.
2. OPERATING VOLTAGE SHALL BE 480 VOLTS FOR INTERSTATE LIGHTING AND 240 VOLT FOR CITY STREET LIGHTING UNLESS OTHERWISE SPECIFIED.
3. ALL BALLASTS SHALL BE REGULATOR TYPE.
4. REFRACTORS SHALL BE PRESSED PRISMATIC BOROSILICATE GLASS.
5. RIGID CONDUIT, INSTALLED ON STRUCTURES SHALL BE SUPPORTED AT LEAST EVERY TEN FEET AND WITHIN THREE FEET OF JUNCTION BOXES, LUMINAIRES, ETC.
6. CONDUIT EXPANSION JOINTS OR PROPER LENGTHS OF WATERPROOF FLEXIBLE CONDUIT SHALL BE PROVIDED AT EACH BRIDGE EXPANSION JOINT AND WHEN GOING FROM BRIDGE SUPERSTRUCTURE TO SUBSTRUCTURE.
7. CONDUIT EXPANSION JOINTS SHALL BE PROVIDED IN WALLS AT EACH LOCATION WHERE CONDUIT PASSES THROUGH WALL EXPANSION JOINTS.
8. CONDUIT ACCESSORIES SUCH AS EXPANSION JOINTS, PULL BOXES, CONDULETS, ELBOWS, FLEXIBLE CONDUITS, ETC., SHALL BE INCLUDED IN THE PRICE BID FOR CONDUIT.
9. THE CONTRACTOR SHALL INSTALL A NYLON PULL CORD OR GALVANIZED PULL WIRE IN EACH EMPTY CONDUIT. THE COST OF THIS ITEM WILL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED IN THE COST OF THE CONDUIT.
10. EACH SERVICE POINT SHALL BE EQUIPPED WITH A 650 VOLT – 2 POLE LIGHTNING ARRESTER.
11. THE CONTRACTOR SHALL PROVIDE THE SERVICE POLE, UNLESS OTHERWISE NOTED, SERVICE RISER, WEATHERHEAD, WEATHERPROOF ENCLOSURE, CIRCUIT BREAKER(S), LIGHTNING ARRESTER, AND THE NECESSARY WIRING FOR CONNECTION TO THE POWER SOURCE.
12. CONDUIT ON BRIDGES, WALLS, ETC., SHALL BE LOCATED WHERE IT IS NOT VISIBLE TO THE TRAVELING PUBLIC.
13. THE ON/OFF CONTROLS FOR EACH LIGHTING CIRCUIT SHALL BE PROVIDED THROUGH PHOTOCELL CONTROLLED LIGHTING CONTACTORS LOCATED AT THE PANELS, UNLESS OTHERWISE INDICATED.
14. ALL FUSES AND FUSEHOLDERS SHALL BE INLINE TYPE AND WATERPROOF. ALL FUSEHOLDERS IN LIGHTING STANDARDS WITH AN ALUMINUM TRANSFORMER BASE SHALL BE BREAKAWAY.
15. CONCRETE ENCASED CONDUIT SHALL BE INSTALLED UNDER ALL ROADWAYS.
16. RIGID STEEL CONDUIT SHALL BE USED ABOVE GRADE, WHERE EXPOSED TO DAMAGE, AND WHERE NOTED.
17. ELECTRICAL EQUIPMENT SUCH AS THE PHOTOELECTRIC CONTROL SYSTEM, CONTACTORS, PANELBOARD, ENCLOSURES, GROUND RODS, CIRCUIT BREAKERS, AND CONNECTIONS TO LIGHTNING ARRESTERS ARE CONSIDERED TO BE INCIDENTAL TO THE ELECTRICAL SYSTEMS AND ARE TO BE INCLUDED IN THE COST OF THE SERVICE PICK-UP POINTS.
18. HIGH MAST TOWER WITH FOUR 1000 WATT HPS – TYPE T – SEE SCHEDULE FOR QUANTITY AND TYPE.
19. HIGH MAST TOWER WITH SIX 400 WATT HPS – TYPE TM – SEE SCHEDULE FOR QUANTITY AND TYPE.
20. THE CONTRACTOR SHALL BEWARE OF OVERHEAD POWER LINES AND LOCATE LIGHTING TOWERS SUCH THAT THEY WILL HAVE TEN FEET MINIMUM CLEARANCE FROM DISTRIBUTION LINES OR TWENTY FEET MINIMUM CLEARANCE FROM TRANSMISSION LINES.
21. INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL SAFETY CODE.
22. THE CONTRACTOR SHALL SUBMIT PHOTOMETRIC DATA AND DESIGN CALCULATIONS, FOR ANY SUBSTITUTED LUMINAIRES, TO VERIFY THE LIGHTING DESIGN CRITERIA.

    LIGHTING DESIGN CRITERIA:
    MAINTENANCE FACTOR = 0.70
    AVERAGE MAINTAINED ILLUMINATION FOR ROADWAY = 0.9 F.C. MIN
    UNIFORMITY RATIO (AVG./MIN.) = 3.0:1 MAXIMUM
    WIND SPEED = 90 MPH
    REFERENCE IES RP-8-00 ROADWAY LIGHTING.

23. THE CONTRACTOR SHALL FURNISH A ONE YEAR WRITTEN WARRANTY FOR PARTS AND DEFECTIVE WORKMANSHIP ON THE LUMINAIRES, POLES, LIGHTING CONTROL PANEL AND ALL THE OTHER ELECTRICAL EQUIPMENT.

LIGHTING NOTES:

A. PRIOR TO START OF THE PROJECT, ALL UTILITIES MUST BE LOCATED.

B. CONTRACTOR SHALL ROUTE ALL CONDUIT RUNS BETWEEN EACH FIXTURE AND FROM THE LAST FIXTURE TO THE UTILITY COMPANY SERVICE LOCATION IN THE MOST DIRECT ROUTE POSSIBLE.

C. NO CONDUIT IS TO BE RUN ON PRIVATE PROPERTY.

D. CARE MUST BE TAKEN IN THE INSTALLATION OF THE CONDUIT SYSTEM TO AVOID ANY DAMAGE TO EXISTING UNDERGROUND UTILITIES.

E. THE CONTRACTOR SHALL SUBMIT PHOTOMETRIC DATA AND DESIGN CALCULATIONS FOR THE LUMINAIRES TO VERIFY THE LIGHTING DESIGN CRITERIA.

LIGHTING DESIGN CRITERIA:
a. THE AVERAGE MAINTAINED ILLUMINATION FOR ROADWAY = 0.9 FC (MINIMUM).
b. THE AVG./MIN. UNIFORMITY = 3.0:1 (MAXIMUM).
c. THE LIGHT LOSS FACTOR = 0.7
d. REFERENCE IES RP-8-00, ROADWAY LIGHTING.

F. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CLIENT.

G. ALL ELECTRICAL MATERIALS, SUCH AS CONDUIT, CABLES, WIRES AND JUNCTION BOXES, SHALL BE NEW U.L. LISTED AND MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, AND THE AMERICAN NATIONAL STANDARDS INSTITUTE.

H. ALL POLES SUPPLIED FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH "GDOT's QUALIFIED PRODUCTS LIST (QPL)" FOR APPROVED SUPPLIERS FOR PROJECTS RECEIVING FEDERAL FUNDING.

I. ALL LUMINAIRES SUPPLIED FOR THIS PROJECT MUST MEET THE GDOT STANDARD SPECIFICATION SECTION 921-LUMINAIRES FOR PROJECTS RECEIVING FEDERAL FUNDING.

DEMOLITION NOTES:

1. CONTRACTOR SHALL REMOVE THE EXISTING LIGHT POLES AND LUMINAIRES AND DISPOSE.
2. CONTRACTOR SHALL REMOVE TOP PORTION OF EXISTING FOUNDATIONS TO A MINIMUM OF 18" BELOW FINAL GRADE.
3. CONTRACTOR SHALL CUT EXISTING CONDUIT AT BASE OF POLES AND ABANDON EXISTING LIGHTING CONDUCTORS IN PLACE.
4. EQUIPMENT TO BE REMOVED INCLUDE, BUT ARE NOT LIMITED TO; PULL BOXES, RIGID CONDUIT, JUNCTION BOXES, WALL PACK FIXTURES AND SERVICE POINTS.

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
441-0004	CONC. SLOPE PAV, 4 IN	SY	190
500-3101	CLASS A CONCRETE	YD3	290
511-1000	BAR REINFORCEMENT STEEL	LB	23,224
615-1200	DIRECTIONAL BORE	LF	1219
681-6620	LUMINAIRE, LOW MOUNTING, 150 W, HP SODIUM (TYPE A)	EA	12
682-1304	CABLE, TP THW, AWG NO 10	LF	6036
682-1306	CABLE, TP THW, AWG NO 6	LF	6036
682-3412	MULT COND CABLE, TP RHW, 2#1/0-1-#2	LF	6036
682-6108	CONDUIT, RIGID 3/4 IN	LF	400
682-6110	CONDUIT, RIGID 1 IN	LF	120
682-6120	CONDUIT, RIGID 2 IN	LF	1400
682-6219	CONDUIT, NONMETL, TP 2, 1 IN	LF	150
682-6222	CONDUIT, NONMETL, TP 2, 2 IN	LF	9000
682-9000	SERVICE PICK UP POINT A	LS	1
682-9000	SERVICE PICK UP POINT B – SP	LS	1
682-9020	ELECTRICAL JUNCTION BOX	EA	4
682-9021	ELECTRICAL JUNCTION BOX, CONC GROUND MOUNTED	EA	3
683-1101	LIGHTING TOWER, STEEL, 100 FT MG, INCL LOWERING EQUIP	EA	21
683-6566	HIGH LEVEL LUMINAIRE, TP 5, 400 W, HP SODIUM (TYPE TM)	EA	56
683-6586	HIGH LEVEL LUMINAIRE, TP 5, 1000 W, HP SODIUM (TYPE T)	EA	42
683-9025	LOWERING DEVICE POWER SUPPLY UNIT	EA	1

LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	DESCRIPTION	VOLTAGE	MOUNTING	LAMPS	REMARKS
A	U.L. WET LABEL WALLPACK, GRAY HOUSING, TOP-HINGE DOOR GLASS, INTEGRAL BALLAST, 3/4" CONDUIT ENTRY, PRISMATIC GLASS.	480	WALL	150 WATT HPS	BRIDGE UNDERPASS SEE 25-009
T	HIGH MAST LUMINAIRE, OPEN VENTILATED BOROSILICATE GLASS REFLECTOR AND REFRACTOR. SYMMETRIC LIGHTING PATTERN. 4 LUMINAIRES PER HIGH MAST POLE RING.	480	HIGH MAST RING	1000 WATT HPS	HIGH MAST SEE 25-010/25-011
TM	PRESSED PRISMATIC LENS SHALL BE MANUFACTURED OF BOROSILICATE GLASS. MEDIUM ROADWAY LIGHTING PATTERN, NO SHIELD.. 6 LUMINAIRES PER HIGH MAST POLE RING.	480	HIGH MAST RING	400 WATT HPS	HIGH MAST SEE 25-010/25-011

ELECTRICAL ABBREVIATIONS

AVG	AVERAGE
FC	FOOTCANDLE
GAPCO	GEORGIA POWER COMPANY
GDOT	GEORGIA DEPARTMENT OF TRANSPORTATION
T	HIGH MAST TOWER (HMST FIXTURE)
TM	HIGH MAST TOWER (MONGOOSE FIXTURE)
HPS	HIGH PRESSURE SODIUM
MS	MAIN SERVICE
RS	RIGID STEEL
EJB	ELECTRICAL JUNCTION BOX
PB	PULL BOX

ELECTRICAL SYMBOLS

- EJB — ELECTRICAL JUNCTION BOX, CONCRETE GROUND MOUNTED
- PSP — PROPOSED SERVICE POINT – 480 VOLTS, 240 VOLTS (PER DWG 25-004 AND 25-007)
- PB — PULL BOX PROVIDE PER NATIONAL ELECTRICAL CODE AS REQUIRED.
- CABLE — CABLE TO BE MULTIPLE CONDUCTOR 2-#1/0 & 1-#2 COPPER TYPE RHW/USE UNLESS OTHERWISE NOTED. NOTE: INDIVIDUAL CONDUCTORS ARE ACCEPTABLE, BUT MUST BE BID AS MULTIPLE CONDUCTOR CABLE. ALUMINUM CONDUCTORS ARE NOT ACCEPTABLE.
- GROUND ROD – TO BE INSTALLED AT EACH GROUND MOUNTED LIGHTING STANDARD LOCATION
- CONDUIT, NONMETALLIC, 2" TP 2 (SCHEDULE 40 PVC) FOR LIGHTING
- CONDUIT, RIGID GALVANIZED, SIZE AS INDICATED
- CONCRETE ENCASED DUCTBANK.
- 150 WATT HPS WALL MOUNTED TYPE A
- HIGH MAST TOWER, NOTE 18
- HIGH MAST TOWER, NOTE 19

GEORGIA REGISTERED No. PE032753 PROFESSIONAL 4/1/12 ENGINEER KUNG C. VEN

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REVISION DATES		
12/03/12		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY

LIGHTING PLANS
I-75 @ US 41 ROCKY FACE

DRAWING No. 25-014